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PRELIMINARY REPORT
INDUSTRY SERIES

1987 Census of Manufactures

MC87-I-34C(P)
Issued July 1989

FABRICATED STRUCTURAL METAL PRODUCTS

Industries 3441, 3442, 3443, 3444, 3446, 3448, and 3449

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.[1]

INDUSTRY 3441, FABRICATED STRUCTURAL METAL

In the 1987 Census of Manufactures, Industry 3441, Fabricated Structural Metal, had employment of 80.3 thousand. The employment figure was 22 percent below the 103.6 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $8.6 billion.

The cost of materials and services used by establishments in this industry amounted to $5.0 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3442, METAL DOORS, SASH, AND TRIM

In the 1987 Census of Manufactures, Industry 3442, Metal Doors, Sash, and Trim, had employment of 74.6 thousand. The employment figure was 13 percent above the 66.3 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $6.6 billion.

The cost of materials and services used by establishments in this industry amounted to $3.6 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)

In the 1987 Census of Manufactures, Industry 3443, Fabricated Plate Work (Boiler Shops), had employment of 73.5 thousand. The employment figure was 29 percent below the 102.9 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $6.6 billion.

The cost of materials and services used by establishments in this industry amounted to $3.2 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3444, SHEET METAL WORK

In the 1987 Census of Manufactures, Industry 3444, Sheet Metal Work, had employment of 99.0 thousand. The employment figure was 22 percent above the 81.1 thousand reported in 1982. Compared with 1986, employment

[1]**Standard Industrial Classification Manual: 1987.** For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call **Davido Dupree** (301) 763-7304.

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in 1987 increased 24 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $9.7 billion.

The cost of materials and services used by establishments in this industry amounted to $5.0 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3446, ARCHITECTURAL METAL WORK

In the 1987 Census of Manufactures, Industry 3446, Architectural Metal Work, had employment of 27.9 thousand. The employment figure was 22 percent above the 22.8 thousand reported in 1982. Compared with 1986, employment in 1987 increased 10 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $2.3 billion.

The cost of materials and services used by establishments in this industry amounted to $1.1 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3448, PREFABRICATED METAL BUILDINGS

In the 1987 Census of Manufactures, Industry 3448, Prefabricated Metal Buildings, had employment of 28.1 thousand. The employment figure was 19 percent above the 23.7 thousand reported in 1982. Compared with 1986, employment in 1987 increased 24 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $3.4 billion.

The cost of materials and services used by establishments in this industry amounted to $1.9 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3449, MISCELLANEOUS METAL WORK

In the 1987 Census of Manufactures, Industry 3449, Miscellaneous Metal Work, had employment of 23.4 thousand. The employment figure was 9 percent above the 21.5 thousand reported in 1982. Compared with 1986, employment in 1987 increased 13 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $3.3 billion.

The cost of materials and services used by establishments in this industry amounted to $2.1 billion in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

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Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
Nondurables	Thomas Flood	(301) 763-5911
Import/Export Publications	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes date for auxilieries. For meaning of ebbrevietions end symbols, see introductory text. For explenetion of terms, see appendix]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Weges (million dollers)	Value edded by menufacture[4] (million dollers)	Cost of meterials (million dollars)	Velue of shipments (million dollars)	New capital expenditures (million dollers)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
INDUSTRY 3441, FABRICATED STRUCTURAL METAL															
1987 Census	(NA)	2 426	1 007	80.3	1 865.8	57.4	116.5	1 155.0	3 583.5	5 034.3	8 596.8	127.5	1 208.2	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	84.6	1 904.6	61.3	122.5	1 216.3	3 378.5	5 236.0	8 731.5	161.8	1 233.0	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	90.6	1 949.6	66.9	130.3	1 266.5	3 626.3	5 389.0	8 910.4	154.7	1 314.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	92.1	1 848.1	67.4	133.6	1 198.8	3 340.8	4 981.8	8 198.3	166.3	1 325.3	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	93.8	1 842.4	67.2	134.5	1 169.9	3 219.1	4 759.6	7 959.4	133.6	1 348.6	(NA)	(NA)
1982 Census	2 588	2 740	1 161	103.6	1 990.2	75.5	151.5	1 296.4	3 639.1	5 015.4	8 853.1	188.9	1 383.0	94	95
1981 ASM	(NA)	(NA)	(NA)	115.6	2 059.7	87.3	173.3	1 360.7	3 701.4	5 374.9	9 059.7	277.9	1 446.1	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	117.9	1 930.1	88.7	175.5	1 265.2	3 696.5	4 958.1	8 548.1	266.8	1 491.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	109.0	1 656.1	81.5	161.0	1 085.3	3 152.4	4 355.4	7 418.1	258.7	1 394.0	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	100.6	1 438.1	74.7	147.4	935.5	2 648.8	3 519.6	6 144.0	174.8	1 309.7	(NA)	(NA)
1977 Census	2 319	2 462	1 074	99.3	1 313.6	72.8	144.2	836.9	2 559.8	3 018.0	5 505.2	144.1	1 220.9	92	92
1976 ASM	(NA)	(NA)	(NA)	96.6	1 222.7	71.3	140.2	792.5	2 368.3	2 790.9	5 204.7	130.0	1 124.3	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	103.4	1 220.8	76.8	150.3	800.3	2 556.4	2 823.4	5 355.2	115.6	1 232.5	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	103.6	1 105.5	77.1	153.1	717.1	2 109.4	2 786.4	4 841.3	81.6	1 175.7	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	105.4	1 022.5	77.9	153.1	667.8	1 863.0	2 353.3	4 189.9	84.3	890.3	(NA)	(NA)
1972 Census	2 010	2 154	1 094	104.3	975.5	76.9	152.3	635.4	1 730.7	2 199.9	3 920.1	74.7	828.5	89	93
INDUSTRY 3442, METAL DOORS, SASH, AND TRIM															
1987 Census	(NA)	1 573	691	74.6	1 406.6	54.5	110.6	851.8	3 007.7	3 621.6	6 626.7	132.4	996.5	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	73.4	1 377.6	52.9	107.4	838.7	2 894.9	3 560.3	6 453.7	139.2	932.3	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	71.2	1 268.0	51.8	101.5	774.4	2 800.5	3 321.8	6 137.2	115.0	847.3	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	68.4	1 146.1	50.0	97.0	698.5	2 456.4	3 108.6	5 561.7	129.5	865.0	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	70.5	1 110.9	52.0	98.5	672.0	2 385.6	2 857.4	5 202.7	95.0	867.0	(NA)	(NA)
1982 Census	1 564	1 738	673	66.3	1 015.8	47.6	92.0	608.1	2 175.1	2 514.1	4 685.3	98.6	755.8	91	94
1981 ASM	(NA)	(NA)	(NA)	71.8	1 022.0	53.0	104.6	593.3	2 208.5	2 513.1	4 695.2	114.2	780.4	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	70.4	909.0	52.4	100.4	539.6	1 930.9	2 218.4	4 141.1	103.9	654.9	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	73.3	864.6	54.6	105.6	529.3	1 829.1	2 220.2	4 034.6	83.5	628.0	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	71.4	747.3	53.7	104.1	479.5	1 588.5	2 020.1	3 581.1	80.6	575.6	(NA)	(NA)
1977 Census	1 498	1 672	644	65.8	671.3	50.1	97.0	425.0	1 418.3	1 751.5	3 135.6	70.7	519.0	93	91
1976 ASM	(NA)	(NA)	(NA)	56.4	528.2	42.8	83.1	333.9	1 086.5	1 285.7	2 347.6	53.2	403.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	53.7	466.2	40.1	75.9	291.7	924.3	1 098.6	2 034.8	34.3	352.4	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	66.6	536.3	50.3	97.0	348.9	1 061.3	1 193.4	2 233.9	44.7	405.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	69.6	533.7	51.9	101.3	341.5	1 011.5	1 087.1	2 084.2	50.7	342.8	(NA)	(NA)
1972 Census	1 391	1 558	646	70.7	520.8	53.0	104.2	330.3	1 003.7	1 085.0	2 077.6	52.1	309.4	90	91
INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)															
1987 Census	(NA)	1 706	795	73.5	1 809.5	50.7	100.2	1 087.6	3 395.1	3 220.0	6 643.0	173.6	1 184.5	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	71.2	1 723.1	48.2	97.5	1 033.4	3 023.3	3 038.1	6 153.9	110.1	1 010.1	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	79.0	1 854.8	55.3	109.7	1 144.5	3 482.7	3 285.2	6 801.2	150.2	1 189.0	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	82.2	1 848.0	57.5	114.3	1 149.4	3 427.7	3 281.1	6 649.1	145.8	1 360.7	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	88.5	1 921.1	61.6	119.3	1 200.8	3 459.9	3 433.7	7 076.7	135.8	1 324.9	(NA)	(NA)
1982 Census	1 743	1 929	967	102.9	2 180.3	73.3	141.5	1 393.2	4 135.7	3 924.5	8 225.3	200.7	1 516.5	93	91
1981 ASM	(NA)	(NA)	(NA)	115.8	2 336.0	83.5	164.6	1 536.5	4 994.4	4 798.8	9 923.4	258.9	1 644.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	125.3	2 316.4	89.4	174.9	1 480.8	5 044.0	4 667.2	9 745.8	239.8	1 832.2	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	131.3	2 185.0	94.4	186.1	1 420.3	4 922.5	4 308.5	9 091.3	229.6	1 860.8	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	126.4	1 964.0	91.3	178.1	1 268.9	4 291.3	3 810.2	8 040.2	187.0	1 694.6	(NA)	(NA)
1977 Census	1 683	1 864	944	123.5	1 777.8	87.7	171.6	1 125.8	4 075.3	3 395.3	7 432.4	179.8	1 566.9	89	92
1976 ASM	(NA)	(NA)	(NA)	119.6	1 547.5	87.1	174.2	1 030.6	3 358.8	3 093.0	6 452.8	196.4	1 460.9	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	115.5	1 433.6	84.4	169.0	963.7	2 960.5	2 986.8	5 917.8	182.6	1 455.6	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	115.8	1 271.8	83.8	171.7	843.8	2 675.0	2 583.3	4 983.9	149.0	1 284.8	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	101.9	1 049.2	75.3	147.8	698.8	2 093.8	1 925.5	3 955.8	96.2	798.0	(NA)	(NA)
1972 Census	1 349	1 486	795	93.0	893.5	67.9	133.5	593.2	1 758.7	1 633.2	3 339.0	77.3	643.4	92	87
INDUSTRY 3444, SHEET METAL WORK															
1987 Census	(NA)	4 197	1 365	99.0	2 224.2	73.7	147.0	1 427.4	4 777.2	4 953.9	9 655.8	207.2	1 519.3	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	79.9	1 728.0	58.4	117.4	1 093.3	3 658.6	4 117.8	7 724.8	126.2	1 253.8	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	81.3	1 703.4	60.0	117.7	1 083.7	3 399.2	4 296.2	7 686.1	159.9	1 239.9	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	84.0	1 689.1	61.4	122.1	1 073.0	3 426.7	4 373.3	7 795.3	177.4	1 263.6	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	81.8	1 584.7	58.9	114.8	980.2	3 282.7	4 006.2	7 166.1	135.0	1 441.1	(NA)	(NA)
1982 Census	3 579	3 795	1 131	81.1	1 494.6	58.9	114.4	949.8	3 024.1	3 767.8	6 853.9	145.6	1 185.3	92	92
1981 ASM	(NA)	(NA)	(NA)	81.4	1 326.8	59.4	120.2	844.8	2 788.7	3 978.9	6 754.4	136.4	1 103.8	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	83.7	1 266.3	60.5	117.4	789.3	2 624.3	3 754.4	6 408.3	165.4	1 039.9	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	83.2	1 171.6	61.9	120.4	751.5	2 628.6	3 649.6	6 209.6	141.8	1 026.1	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	81.3	1 078.3	59.6	112.5	711.0	2 357.5	3 308.2	5 624.9	152.9	893.6	(NA)	(NA)
1977 Census	3 222	3 430	1 008	77.4	980.2	56.7	109.5	636.6	2 095.1	2 809.0	4 863.5	110.6	841.9	92	90
1976 ASM	(NA)	(NA)	(NA)	73.0	872.0	52.8	100.2	564.8	1 865.8	2 473.9	4 284.2	189.8	716.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	69.0	778.9	50.1	95.0	503.1	1 546.2	1 948.7	3 527.5	77.3	616.2	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	78.6	825.1	59.2	114.8	559.8	1 818.5	2 030.0	3 752.2	74.3	695.4	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	81.5	784.3	62.7	120.3	532.4	1 606.7	1 693.0	3 277.3	195.9	428.2	(NA)	(NA)
1972 Census	2 960	3 117	933	74.0	678.5	55.4	108.3	453.6	1 299.9	1 399.3	2 680.0	59.0	404.2	90	84
INDUSTRY 3446, ARCHITECTURAL METAL WORK															
1987 Census	(NA)	1 327	332	27.9	572.9	19.7	38.9	340.4	1 184.9	1 075.2	2 257.4	44.3	350.4	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	25.3	505.6	17.9	33.7	309.0	1 022.2	979.1	2 017.2	44.4	278.3	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	24.4	473.1	17.8	35.5	299.8	966.8	954.7	1 921.1	48.1	293.1	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	23.3	426.2	16.7	33.7	267.1	842.5	820.5	1 648.0	541.3	281.3	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	22.8	400.9	16.7	33.9	257.5	772.2	708.1	1 481.7	21.6	263.1	(NA)	(NA)
1982 Census	1 380	1 417	241	22.8	366.0	16.0	30.7	230.6	705.0	658.0	1 367.5	26.8	243.2	91	84
1981 ASM	(NA)	(NA)	(NA)	24.3	345.2	16.7	32.6	210.6	742.2	683.7	1 393.5	25.8	243.0	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	23.7	322.4	16.8	32.9	200.6	686.9	606.8	1 281.5	27.8	208.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	22.9	297.3	16.8	32.8	185.6	605.5	546.8	1 144.5	19.9	194.0	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	21.4	264.7	16.0	30.0	163.1	543.9	519.7	1 042.4	23.1	182.6	(NA)	(NA)

See footnotes at end of table.

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Wages (million dollars)	Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
	INDUSTRY 3446, ARCHITECTURAL METAL WORK—Con.														
1977 Census	1 477	1 511	225	20.8	247.7	15.1	29.4	152.3	505.5	450.8	947.1	22.2	167.3	90	86
1976 ASM	(NA)	(NA)	(NA)	22.6	238.2	16.8	31.9	153.5	472.7	392.6	861.8	26.5	133.8	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	22.5	218.4	16.9	31.0	141.0	432.0	380.9	815.8	14.7	129.9	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	24.2	221.3	18.9	35.1	148.4	435.8	394.6	818.6	13.7	141.2	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	22.7	201.3	17.1	32.8	129.5	440.9	316.3	750.6	21.6	112.1	(NA)	(NA)
1972 Census	1 430	1 459	250	20.9	175.4	15.6	29.5	108.7	311.8	269.6	573.7	17.0	93.0	88	81
	INDUSTRY 3448, PREFABRICATED METAL BUILDINGS														
1987 Census	(NA)	563	256	28.1	595.1	18.8	36.5	329.1	1 435.3	1 935.1	3 374.6	53.0	411.3	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	22.7	484.8	15.7	30.6	271.0	1 143.4	1 589.8	2 736.0	[5]47.4	425.3	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	22.8	459.6	15.7	30.7	263.5	1 049.8	1 465.3	2 499.6	50.4	451.5	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	22.0	431.7	14.6	29.4	242.9	978.8	1 384.8	2 329.0	51.7	447.5	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	22.3	424.3	14.6	28.3	230.2	970.2	1 300.1	2 249.7	[5]49.3	430.5	(NA)	(NA)
1982 Census	518	570	239	23.7	435.7	15.2	29.9	242.8	877.4	1 410.5	2 324.6	46.1	403.4	95	95
1981 ASM	(NA)	(NA)	(NA)	24.4	411.9	16.2	31.6	237.1	930.9	1 497.7	2 408.2	49.9	397.0	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	25.2	377.8	16.8	32.1	221.2	810.4	1 358.3	2 192.9	69.7	323.2	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	25.6	361.2	18.2	35.5	220.2	842.0	1 434.9	2 265.6	50.4	359.9	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	24.4	333.2	16.9	33.6	200.7	878.8	1 245.3	2 106.1	38.7	338.6	(NA)	(NA)
1977 Census	414	466	199	22.7	289.7	15.9	31.6	174.9	694.5	1 100.6	1 779.2	32.2	304.6	94	95
1976 ASM	(NA)	(NA)	(NA)	15.0	174.8	10.3	19.8	101.2	428.0	654.1	1 077.4	15.3	215.2	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	14.6	158.8	9.4	18.0	87.7	353.8	526.0	895.4	31.6	193.4	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	18.4	186.4	13.3	26.7	119.9	487.5	657.9	1 119.1	44.5	249.7	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	16.3	153.2	12.0	25.7	100.6	404.4	498.6	892.4	22.9	156.1	(NA)	(NA)
1972 Census	143	159	88	12.5	109.4	8.9	17.5	68.6	275.9	338.5	608.9	11.3	103.7	89	90
	INDUSTRY 3449, MISCELLANEOUS METAL WORK														
1987 Census	(NA)	589	277	23.4	550.9	15.9	33.0	325.4	1 270.8	2 050.8	3 305.9	59.9	452.7	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	20.7	455.6	13.3	26.3	261.6	931.5	1 652.5	2 616.8	68.2	314.8	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	21.8	474.2	13.8	27.8	270.7	996.9	1 731.2	2 727.8	56.6	376.5	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	22.1	459.4	15.0	29.5	269.2	995.9	1 859.1	2 815.1	58.6	439.8	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	19.9	404.8	13.0	25.4	222.4	914.4	1 548.3	2 441.8	33.2	360.1	(NA)	(NA)
1982 Census	401	492	257	21.5	414.7	14.1	26.7	234.8	909.9	1 653.9	2 594.6	44.9	359.9	88	84
1981 ASM	(NA)	(NA)	(NA)	17.9	323.0	11.7	24.5	182.4	855.7	1 503.5	2 376.0	43.4	319.4	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	18.5	306.6	12.0	24.6	176.6	809.7	1 469.4	2 281.1	29.4	304.3	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	18.1	281.6	12.0	25.2	162.7	734.7	1 375.6	2 073.1	27.9	308.0	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	16.8	242.5	10.7	20.9	132.1	531.4	1 063.4	1 577.7	34.9	263.8	(NA)	(NA)
1977 Census	308	412	185	16.3	211.5	10.2	20.2	115.7	436.9	893.6	1 330.8	20.5	211.8	91	78
1976 ASM	(NA)	(NA)	(NA)	18.2	218.6	12.1	23.3	124.0	468.3	882.3	1 355.5	26.7	240.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	18.9	211.3	12.2	23.4	114.1	483.4	852.0	1 353.4	26.4	237.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	21.0	215.2	14.0	27.6	125.2	565.8	1 026.9	1 561.4	17.5	286.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	20.6	199.1	13.8	26.9	115.7	452.7	728.4	1 176.7	25.2	186.0	(NA)	(NA)
1972 Census	336	418	220	19.5	178.8	13.1	25.6	102.2	362.2	619.0	980.4	26.2	152.4	91	76

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 3441, 26%; SIC 3442, 23%; SIC 3443, 25%; SIC 3444, 22% SIC 3446, 22%; SIC 3448, 25%; and 3449, 18%.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Includes establishments with payroll at any time during year.

[4]Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.

[5]Estimates for new capital expenditures have associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3441- —	**FABRICATED STRUCTURAL METAL**						
	Total	**(NA)**	**(X)**	**7 680.6**	**(NA)**	**(X)**	**7 956.3**
34411 —	Fabricated structural metal for buildings	(NA)	(X)	[3]4 228.9	(NA)	(X)	4 588.0
	Iron and steel (for sale to other companies):						
34411 21	Industrial, 1,000 s tons				580	(S)	1 464.6
34411 22	Commercial, do.				481	**1 005.8	1 102.6
34411 23	Residential, do.				49	**54.6	53.5
34411 24	Institutional, medical, and religious, do.				137	**113.8	124.6
34411 26	Public and educational, do.				142	**152.9	159.3
34411 27	Public utilities, do.				113	*224.9	270.8
	Iron and steel (for installation by own company on site of construction):						
34411 61	Industrial, 1,000 s tons	(NA)	(X)	[3]4 228.9	194	**454.7	429.6
34411 62	Commercial, do.				226	**523.3	623.3
34411 63	Residential, do.				23	(S)	18.3
34411 64	Institutional, medical, and religious, do.				60	(S)	39.0
34411 66	Public and educational, do.				63	**58.2	55.6
34411 67	Public utilities, do.				33	**44.1	52.5
34411 71	Aluminum, do.				23	(S)	39.3
34411 00	Fabricated structural metal for buildings, n.s.k.				(NA)	(X)	155.1
34412 —	Fabricated structural metal for bridges	(NA)	(X)	[3]545.8	(NA)	(X)	422.8
	Iron, steel, and aluminum (for sale to other companies):						
34412 12	Highway bridges, trestles, and viaducts, 1,000 s tons				94	**278.5	327.3
34412 16	Railway bridges, trestles, and viaducts, do.				30	*18.5	21.1
34412 17	Special purpose bridges, do.				17	(S)	16.2
34412 61	Iron, steel, and aluminum bridges, trestles, and viaducts (highway, railway, and special purpose bridges for installation by own company on site of construction), do.	(NA)	(X)	[3]545.8	8	*16.9	57.2
34412 00	Fabricated structural metal for bridges, n.s.k.				(NA)	(X)	1.0
34413 —	Other fabricated structural metal	(NA)	(X)	1 692.8	(NA)	(X)	2 153.6
	Iron and steel (for sale to other companies):						
34413 11	For ships, boats, and barges, 1,000 s tons	(NA)	(S)	43.8	38	(S)	334.4
34413 41	For transmission towers, substations, radio antenna towers, and supporting structures, do.	(NA)	(S)	84.7	46	**181.7	218.5
34413 53	For offshore oil and gas platforms, do.	(NA)	(S)	58.5	27	*199.0	534.7
34413 55	For tunnelling and subway work, do.	(NA)	(S)	3.7	12	*70.9	83.6
34413 57	For aerospace and defense, do.	(NA)	(S)	94.0	15	(S)	17.1
34413 58	Other fabricated structural iron and steel (including dam locks and dam gates) (excluding pressure vessels and storage tanks, fabricated reinforcing bars, bar joists, fabricated metal buildings, steel flooring, and roof decks), do.	(NA)	(S)	427.5	302	(S)	653.2
	Iron and steel (for installation by company on the site of construction or for shipbuilding):						
34413 61	For ships, boats, and barges, 1,000 s tons	(NA)	(S)	510.5	14	108.4	91.8
34413 71	For transmission towers, substations, radio antenna towers, and supporting structures, do.	(NA)	(S)	25.7	8	(S)	10.0
34413 82	For aerospace and defense, do.	(NA)	(S)	30.7	7	(S)	2.6
34413 83	Other fabricated structural iron and steel (including dam locks and dam gates) (excluding pressure vessels and storage tanks, fabricated reinforcing bars, bar joists, fabricated metal buildings, steel flooring, and roof decks), do.	(NA)	(S)	107.3	46	(S)	126.6
34413 84	Aluminum for ships, boats, barges, transmission towers, and other structures (excluding tanks, fabricated metal buildings, etc.), do.	(NA)	(S)	11.4	11	(S)	25.2
34413 98	Structural metal other than iron, steel, or aluminum, do.	(NA)	(S)	9.4	10	(S)	11.9
34413 00	Other fabricated structural metal, n.s.k.	(NA)	(X)	285.4	(NA)	(X)	44.1
34410 —	Fabricated structural metal, n.s.k.	(NA)	(X)	1 213.2	(NA)	(X)	792.0
34410 00	Fabricated structural metal, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	857.5	(NA)	(X)	503.7
34410 02	Fabricated structural metal, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	355.6	(NA)	(X)	288.3
3442- —	**METAL DOORS, SASH, AND TRIM**						
	Total	**(NA)**	**(X)**	**5 962.4**	**(NA)**	**(X)**	**4 349.8**
34421 —	Metal doors and frames, except storm doors	(NA)	(X)	2 392.7	(NA)	(X)	1 668.6
	Aluminum doors (excluding shower doors and tub enclosures):						
	Industrial:						
34421 05	Overhead, thousands	(NA)	(S)	27.5	19	(S)	25.1
34421 07	Sliding, do.	(NA)	**95.1	29.1	19	**158.8	49.9
34421 09	All other, do.	(NA)	(S)	30.4	26	(S)	65.4
	Residential:						
34421 11	Swing, thousands	(NA)	*1 794.3	107.5	33	*1 285.9	86.6
34421 16	Sliding (glass, patio type), do.	(NA)	**1 147.9	179.0	89	**1 397.3	190.3
34421 19	All other, including garage and closet doors, do.	(NA)	(S)	52.5	27	(S)	36.1
	Commercial and institutional:						
34421 21	Overhead and sliding, thousands	(NA)	(S)	15.2	10	*198.1	54.5
34421 22	Swing, do.	(NA)	(S)	74.9	21	(S)	82.5
34421 23	All other, do.	(NA)	(S)	71.2	22	**731.6	63.1

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3442- --	**METAL DOORS, SASH, AND TRIM**—Con.						
34421 --	Metal doors and frames, except storm doors—Con.						
	Iron and steel doors, including stainless steel doors (excluding shower doors and tub enclosures):						
	Industrial:						
34421 24	Overhead ---- thousands	(NA)	(S)	169.1	37	(S)	106.3
34421 25	Swing ---- do	(NA)	(S)	41.9	27	*532.1	96.1
34421 26	All other, including sliding ---- do	(NA)	(S)	37.1	32	(S)	70.6
	Residential:						
34421 27	Garage ---- thousands	(NA)	(S)	178.1	33	*388.1	65.6
34421 28	Steel composite doors (steel clad with foam wood components) ---- do	(NA)	(S)	26.4	12	**527.0	41.3
34421 30	Insulated steel entrance doors ---- do	(NA)	(S)	350.9	25	1 970.4	145.6
34421 31	All other, including slide, swing, and closet ---- do	(NA)	(S)	74.8	16	**847.6	42.3
	Commercial and institutional:						
34421 32	Overhead and sliding ---- thousands	(NA)	(S)	103.4	13	*57.9	33.2
34421 34	Swing ---- do	(NA)	*1 463.7	140.4	41	867.1	91.8
34421 36	All other ---- do	(NA)	(S)	77.6	2	(S)	22.1
34421 39	Metal doors other than steel or aluminum ---- do	(NA)	(S)	10.9			
	Metal door frames, including trim sold as integral part of door frame:						
34421 42	Aluminum ---- thousands	(NA)	(S)	95.5	31	(S)	74.1
	Steel:						
34421 43	16 gauge and heavier ---- thousands	(NA)	(S)	137.7	49	*3 041.8	104.8
34421 44	Lighter than 16 gauge ---- do	(NA)	(S)	36.2	20	*1 447.2	27.7
34421 45	Shower doors and tub enclosures (all metals) ---- do	(NA)	(S)	93.1	29	(S)	74.5
34421 00	Metal doors, sash, and trim, n.s.k.	(NA)	(X)	232.3	(NA)	(X)	19.1
34422 --	Metal window sash and frames, except storm sash	(NA)	(X)	[3]1 496.5	(NA)	(X)	1 279.6
	Residential:						
34422 20	Steel ---- thousands				11	(S)	29.0
	Aluminum:						
34422 21	Single and double hung ---- thousands				147	**8 992.9	394.9
34422 22	Awning ---- do				36	*914.3	47.2
34422 23	Jalousie ---- do				14	(S)	18.3
34422 24	Horizontal sliding ---- do				91	*5 167.0	251.8
34422 29	All other ---- do				62	(S)	79.0
	Other, including commercial, industrial, etc.:						
34422 35	Steel ---- thousands	(NA)	(X)	[3]1 496.5	21	(S)	35.0
	Aluminum:						
34422 41	Single and double hung ---- thousands				56	**2 110.5	135.7
34422 42	Awning ---- do				10	(S)	7.4
34422 43	Projected ---- do				20	*516.1	56.1
34422 49	All other ---- do				55	(S)	185.7
34422 98	Metal window sash and frames, other than steel or aluminum ---- do				8	(S)	18.9
34422 00	Metal window sash and frames, except storm sash, n.s.k.				(NA)	(X)	20.4
34423 --	Metal molding and trim and store fronts	(NA)	(X)	342.4	(NA)	(X)	285.6
	Metal molding and trim:						
34423 21	Steel	(NA)	(X)	20.8	11	(X)	28.5
34423 25	Aluminum	(NA)	(X)	252.8	57	(X)	220.6
34423 51	Store fronts, sold complete at factory	(NA)	(X)	23.7	17	(X)	33.6
34423 00	Metal molding and trim and store fronts, n.s.k.	(NA)	(X)	45.1	(NA)	(X)	3.0
34424 --	Metal combination screen, storm sash, and storm doors	(NA)	(X)	[3]413.9	(NA)	(X)	565.6
34424 11	Metal storm sash, except combination ---- thousands				56	(S)	66.9
34424 12	Combination screen and storm sash ---- do				153	(S)	220.3
34424 13	Storm doors ---- do	(NA)	(X)	[3]413.9	149	**3 933.2	264.0
34424 00	Metal combination screen, storm sash, and storm doors, n.s.k.				(NA)	(X)	14.4
34425 --	Metal window and door screens (except combination) and metal weather strip	(NA)	(X)	227.5	(NA)	(X)	168.6
34425 11	Screen doors ---- thousands	(NA)	(S)	51.2	27	(S)	29.8
34425 12	Window screens with metal frames, including tension and roll types ---- do	(NA)	(S)	98.0	68	(S)	73.3
34425 51	Weather strip ---- mil lin ft	(NA)	(S)	65.2	19	(S)	63.6
34425 00	Metal window and door screens (except combination) and metal weather strip, n.s.k.	(NA)	(X)	13.1	(NA)	(X)	2.0
34420 --	Metal doors, sash, and trim, n.s.k.	(NA)	(X)	1 089.4	(NA)	(X)	381.8
34420 00	Metal doors, sash, and trim, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	914.7	(NA)	(X)	246.5
34420 02	Metal doors, sash, and trim, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	174.7	(NA)	(X)	135.3
3443- --	**FABRICATED PLATE WORK (BOILER SHOPS)**						
	Total	**(NA)**	**(X)**	6 168.6	**(NA)**	**(X)**	8 094.5
34431 --	Heat exchangers and steam condensers, except for nuclear applications	(NA)	(X)	[3]889.9	(NA)	(X)	1 220.5
	Heat exchangers, closed types, industrial:						
34431 13	Bare tube ---- 1,000 sq ft (surf)				112	(S)	593.0
34431 18	Fin tube ---- do				74	(S)	479.5
34431 55	Steam condensers ---- do	(NA)	(X)	[3]889.9	27	(S)	125.4
34431 00	Heat exchangers and steam condensers, except for nuclear applications, n.s.k.				(NA)	(X)	22.6
34432 --	Fabricated steel plate (stacks and weldments), except heat exchangers, steel power boilers, gas cylinders, nuclear reactor steam supply systems, and metal tanks and vessels	(NA)	(X)	[3]1 033.2	(NA)	(X)	1 656.9

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3443- —	**FABRICATED PLATE WORK (BOILER SHOPS)—Con.**						
34432 —	Fabricated steel plate (stacks and weldments), except heat exchangers, steel power boilers, gas cylinders, nuclear reactor steam supply systems, and metal tanks and vessels —Con.						
34432 21	Shielding for use in nuclear reactor buildings	(NA)	(X)	(3)	17	(X)	25.7
34432 36	Pipe, penstocks, tunnel lining, stacks, and breeching	(NA)	(X)	(3)	63	(X)	236.0
	Containers (trash and other) steel plate:						
34432 44	Less than 13 gallons	(NA)	(X)	(3)			
34432 46	13 gallons to 79 gallons	(NA)	(X)	(3)	80	(X)	219.7
34432 48	More than 79 gallons	(NA)	(X)	(3)			
	Sound control equipment:						
34432 52	Jet engine test facilities, including hush houses, demountable run-up silencers, demountable test cells, etc.	(NA)	(X)	(3)	(NA)	(NA)	(NA)
34432 54	Gas turbine sound systems (enclosed), including natural gas compression, electric generation, marine propulson, etc.	(NA)	(X)	(3)	(NA)	(NA)	(NA)
34432 56	Other, including sound panels, one piece enclosures, industrial silencers, and air duct silencers	(NA)	(X)	(3)	(NA)	(NA)	(NA)
34432 98	Weldments and fabricated steel plate for other purposes	(NA)	(X)	(3)	419	(X)	1 141.3
34432 00	Fabricated steel plate (stacks and weldments), except heat exchangers, steel power boilers, gas cylinders, nuclear reactor steam supply systems, and metal tanks and vessels, n.s.k.	(NA)	(X)	(3)	(NA)	(X)	34.3
34433 —	Steel power boilers, parts, and attachments (more than 15 p.s.i. steam working pressure), except for nuclear applications	(NA)	(X)	3639.1	(NA)	(X)	963.1
	Stationary and marine power boilers:						
	Water tube:						
	More than 15 p.s.i. steam working pressure:						
34433 13	10,000 lb/hr or less number				15	(S)	115.8
34433 17	10,001 lb/hr to 100,000 lb/hr do				11	(S)	62.4
34433 22	100,001 lb/hr to 250,000 lb/hr do				10	(S)	147.4
34433 32	250,001 lb/hr or more do				7	(S)	292.0
	Fire tube:						
34433 36	Horizontal return tubular number				5	24.8	8.6
34433 38	Firebox do				(NA)	(NA)	(NA)
34433 39	Vertical return tubular do				(NA)	(NA)	(NA)
	Scotch type (package steam generators):						
34433 43	Hot water type number	(NA)	(X)	3639.1	7	65.3	24.5
34433 42	Steam pressure type do				13	205.5	74.6
34433 49	Super heated water boilers do				(NA)	(NA)	(NA)
34433 50	Other types do				13	(S)	41.7
34433 52	Parts and attachments for steel power boilers (sold separately)				24	(X)	180.7
34433 00	Steel power boilers, parts, and attachments (more than 15 p.s.i. steam working pressure), except for nuclear applications, n.s.k.				(NA)	(X)	4.9
34434 —	Gas cylinders	(NA)	(X)	3229.0	(NA)	(X)	221.5
	Seamless:						
34434 13	Ferrous thousands	(NA)	(3)	(3)			
34434 15	Nonferrous do	(NA)	(3)	(3)			
	Welded:				23	(S)	221.5
34434 17	Ferrous thousands	(NA)	(3)	(3)			
34434 19	Nonferrous do	(NA)	(3)	(3)			
34434 00	Gas cylinders, n.s.k.	(NA)	(X)	(3)	(NA)	(X)	(NA)
34435 —	Metal tanks, complete at factory (standard line pressure)	(NA)	(X)	(3)	(NA)	(X)	446.7
	Liquefied petroleum gas tanks (all type):						
34435 21	Ferrous thousands	(NA)	(3)	(3)	19	*156.8	143.5
34435 23	Nonferrous do	(NA)	(3)	(3)			
	Air receivers:						
34435 31	Ferrous thousands	(NA)	(3)	(3)	18	(S)	29.1
34435 33	Nonferrous do	(NA)	(3)	(3)			
	Other pressure tanks, including anhydrous ammonia less than 3,000 gallon capacity, but excluding range boilers, expansion tanks, hot-water storage tanks, and tanks for water heaters, sold separately:						
34435 37	Ferrous thousands	(NA)	(3)	(3)	60	(S)	264.9
34435 39	Nonferrous do	(NA)	(3)	(3)			
34435 00	Metal tanks, complete at factory (standard line pressure), n.s.k.	(NA)	(X)	(3)	(NA)	(X)	9.2
34436 —	Nuclear reactor steam supply systems:						
34436 00	Nuclear reactor steam supply systems, including primary vessels and tanks (sold separately), heat exchangers and condensers (sold separately), pressurizers, components, and auxiliary equipment (sold separately)	(NA)	(X)	341.7	35	(X)	634.4
34437 —	Metal tanks, complete at factory (standard line nonpressure)	(NA)	(X)	399.0	(NA)	(X)	603.1
	Storage tanks:						
	4,000 gallon capacity or less:						
34437 12	Ferrous thousands	(NA)	(S)	90.6	82	(S)	147.8
34437 15	Nonferrous do	(NA)	(S)	29.1	27	(S)	24.3
	More than 4,000 gallon capacity:						
34437 17	Ferrous thousands	(NA)	(S)	81.9	106	(S)	215.8
34437 19	Nonferrous do	(NA)	(S)	24.1	24	(S)	36.2

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3443- —	**FABRICATED PLATE WORK (BOILER SHOPS)—Con.**						
34437 —	Metal tanks, complete at factory (standard line nonpressure)—Con.						
	Storage tanks—Con.						
	Other nonpressure tanks, including tanks for trailers, metal septic tanks, and truck tanks for delivery of fluids:						
34437 48	Ferrous ---- thousands	(NA)	(S)	67.2	54	(S)	133.7
34437 50	Nonferrous ---- do	(NA)	(S)	38.3	15	*2.3	22.2
34437 00	Metal tanks, complete at factory (standard line nonpressure), n.s.k.	(NA)	(X)	67.8	(NA)	(X)	23.3
34438 —	Metal tanks and vessels, custom fabricated at the factory	(NA)	(X)	633.0	(NA)	(X)	1 164.2
	Pressure vessels and tanks (more than 24 inches outside diameter and not less than 5 cubic feet capacity), including process vessels, tanks, and kettles:						
	Ferrous:						
34438 03	Refineries, chemical plants, and paper mills ---- 1,000 s tons	(NA)	(3)	(3)	176	(S)	651.8
34438 05	Other processing industries, excluding liquefied petroleum gas ---- do	(NA)	(3)	(3)			
34438 07	Nonferrous process vessels, tanks, and kettles for refineries, chemical plants, paper mills, and liquefied petroleum gas ---- do	(NA)	(3)	(3)	60	(S)	186.9
	Liquefied petroleum gas tanks 3,000 gallon capacity or more:						
34438 14	Ferrous ---- 1,000 s tons	(NA)	(3)	(3)	12	(S)	45.1
34438 16	Nonferrous ---- do	(NA)	(3)	(3)			
	All other tanks and vessels, custom fabricated at the factory, including anhydrous ammonia tanks 3,000 gallon capacity or more:						
34438 17	Ferrous ---- 1,000 s tons	(NA)	(3)	(3)	82	(S)	261.8
34438 19	Nonferrous ---- do	(NA)	(3)	(3)			
34438 00	Metal tanks and vessels, custom fabricated at the factory, n.s.k.	(NA)	(X)	(3)	(NA)	(X)	18.5
34439 —	Metal tanks and vessels, custom fabricated and field erected	(NA)	(X)	(3)	(NA)	(X)	452.4
	Bulk storage tanks:						
	Elevated types:						
	Ferrous:						
34439 15	Dry materials ---- 1,000 s tons	(NA)	(3)	(3)	23	*32.0	64.2
34439 17	Water ---- do	(NA)	(3)	(3)			
34439 19	Other liquids ---- do	(NA)	(3)	(3)			
34439 23	Nonferrous ---- do	(NA)	(3)	(3)	6	(S)	5.4
	Ground storage type:						
	Ferrous:						
34439 31	Dry materials ---- 1,000 s tons	(NA)	(3)	(3)	51	**179.6	207.2
34439 32	Petroleum products ---- do	(NA)	(3)	(3)			
34439 33	Water ---- do	(NA)	(3)	(3)			
34439 34	Other ---- do	(NA)	(3)	(3)			
34439 36	Nonferrous ---- do	(NA)	(3)	(3)	12	(S)	17.8
	Pressure vessels and tanks, including gas holders and process vessels, tanks, and kettles:						
	Ferrous:						
34439 51	Refineries, chemical plants, and paper mills ---- 1,000 s tons	(NA)	(3)	(3)	34	(S)	131.8
34439 53	Other processing industries ---- do	(NA)	(3)	(3)			
34439 58	Nonferrous ---- do	(NA)	(3)	(3)	9	(S)	21.1
34439 00	Metal tanks and vessels, custom fabricated at the factory, n.s.k.	(NA)	(X)	(3)	(NA)	(X)	4.9
34430 —	Fabricated plate work (boiler shops), n.s.k.	(NA)	(X)	1 242.9	(NA)	(X)	731.6
34430 00	Fabricated plate work (boiler shops), n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	(X)	871.8	(NA)	(X)	453.7
34430 02	Fabricated plate work (boiler shops), n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	(X)	329.4	(NA)	(X)	277.9
3444- —	**SHEET METAL WORK**						
	Total	**(NA)**	**(X)**	**8 935.2**	**(NA)**	**(X)**	**6 572.6**
34441 —	Air-conditioning ducts and stove pipe	(NA)	(X)	[3]708.8	(NA)	(NA)	(NA)
	Air-conditioning ducts, including dust collecting ducts:						
34441 21	Steel	(NA)	(X)	[3]708.8	236	(X)	362.0
34441 23	Aluminum				67	(X)	90.5
	Stove pipe, furnace smoke pipe, elbows:						
34441 27	Steel				96	(X)	235.7
34441 29	Aluminum				29	(X)	58.6
34441 00	Air-conditioning ducts and stove pipe, n.s.k.				(NA)	(NA)	(NA)
34442 —	Culverts, flumes, irrigation pipes, etc.	(NA)	(X)	[3]257.9	(NA)	(X)	396.3
34442 13	Steel	(NA)	(X)	[3]257.9	94	(X)	350.2
34442 15	Aluminum				16	(X)	34.6
34442 19	Other metals				7	(X)	9.7
34442 00	Culverts, flumes, irrigation pipes, etc., n.s.k.				(NA)	(X)	1.7

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3444- —	**SHEET METAL WORK—Con.**						
34443 —	Bins and vats	(NA)	(X)	[3]125.3	(NA)	(NA)	(NA)
	Grain, excluding drying floors, fans, heaters:						
34443 11	Steel	(NA)	(X)	(3)	19	(X)	219.7
34443 13	Aluminum	(NA)	(X)	(3)			
	Other, including feed storage:						
34443 21	Steel	(NA)	(X)	(3)	31	(X)	75.9
34443 23	Aluminum	(NA)	(X)	(3)			
34443 00	Bins and vats, n.s.k.	(NA)	(X)	(3)	(NA)	(NA)	(NA)
34444 —	Metal roofing and roof drainage equipment	(NA)	(X)	[3]837.4	(NA)	(X)	655.5
	Metal roofing:						
34444 11	Steel, all types, 1,000 s tons				75	519.9	373.7
34444 17	Aluminum and other metals, all types, do				20	**18.9	38.9
	Roof drainage equipment, including eave troughs, etc.:						
34444 23	Steel, 1,000 s tons	(NA)	(X)	[3]837.4	51	(S)	106.3
34444 29	Aluminum, do				43	**34.3	116.3
34444 31	All other metals, do				12	(S)	12.6
34444 00	Metal roofing and roof drainage equipment, n.s.k.				(NA)	(X)	7.7
34445 —	Metal flooring and siding	(NA)	(X)	[3]921.1	(NA)	(X)	950.7
34445 05	Fabricated metal flooring, 1,000 s tons	(NA)	(3)	(3)	30	*363.1	287.8
	Metal siding:						
34445 16	Steel, 1,000 s tons	(NA)	(3)	(3)	49	**231.6	283.7
	Aluminum:						
34445 17	Residential (including mobile homes), 1,000 s tons	(NA)	(3)	(3)	47	**123.3	308.0
34445 18	Other (commercial, industrial, farm buildings, etc.), do	(NA)	(3)	(3)	21	**23.1	57.9
34445 19	Other metals, do	(NA)	(3)	(3)	(NA)	(NA)	13.3
34445 00	Metal flooring and siding, n.s.k.	(NA)	(X)	(3)			
34447 —	Metal awnings, canopies, cornices, and soffits	(NA)	(X)	[3]510.4	(NA)	(NA)	(NA)
	Awnings, canopies, carports, patios:						
34447 21	Steel				19	(X)	31.4
34447 25	Aluminum				90	(X)	141.5
34447 31	Cornices, skylights, domes, copings, etc., steel and aluminum	(NA)	(X)	[3]510.4	43	(X)	115.7
34447 41	Soffits, fascia, and shutters, steel and aluminum				49	(X)	153.6
34447 00	Metal awnings, canopies, cornices, and soffits, n.s.k.				(NA)	(NA)	(NA)
34448 —	Electronic enclosures	(NA)	(X)	[3]1 034.6	(NA)	(NA)	(NA)
	Computer and peripheral equipment:						
34448 11	Steel				(NA)	(NA)	(NA)
34448 13	Aluminum				(NA)	(NA)	(NA)
34448 19	Other electronic enclosures (excluding computer), including machine and motor housings, panels, and guards; steel and aluminum	(NA)	(X)	[3]1 034.6	(NA)	(NA)	(NA)
34448 00	Electronic enclosures, n.s.k.				(NA)	(NA)	(NA)
34449 —	Other sheet metal work	(NA)	(X)	[3]2 121.1	(NA)	(NA)	(NA)
34449 31	Roof ventilators				37	(X)	88.8
34449 41	Louvers and dampers for heating, ventilation, and air-conditioning; steel and aluminum				(NA)	(NA)	(NA)
	Restaurant and hotel kitchen sheet metal equipment (table tops, drain boards, etc.):						
34449 53	Steel	(NA)	(X)	[3]2 121.1	75	(X)	140.8
34449 55	Aluminum				15	(X)	38.0
	Other sheet metal work:						
34449 62	Steel				635	(X)	1 079.9
34449 65	Aluminum				278	(X)	361.6
34449 98	Metals other than steel or aluminum				95	(X)	157.2
34449 00	Other sheet metal work, n.s.k.				(NA)	(X)	115.7
34440 —	Sheet metal work, n.s.k.	(NA)	(X)	2 418.5	(NA)	(X)	1 103.4
34440 00	Sheet metal work, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	2 103.1	(NA)	(X)	836.6
34440 02	Sheet metal work, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	314.4	(NA)	(X)	266.8
3446- —	**ARCHITECTURAL METAL WORK**						
	Total	**(NA)**	**(X)**	2 180.0	**(NA)**	**(X)**	1 422.0
34461 —	Grilles, registers, and air diffusers	(NA)	(X)	270.7	(NA)	(NA)	(NA)
	Warm air or air-conditioning grilles, registers, and air diffusers:						
34461 10	Iron and steel, 1,000 s tons	(NA)	(S)	147.7	37	*65.4	158.5
34461 12	Aluminum, do	(NA)	(S)	52.1	24	(S)	107.5
	Other grilles, including open mesh partitions:						
34461 15	Iron and steel, 1,000 s tons	(NA)	26.2	34.3	22	(S)	11.6
34461 17	Aluminum, do	(NA)	(S)	22.0	12	(S)	12.3
34461 00	Grilles, registers and air diffusers, n.s.k.	(NA)	(X)	14.7	(NA)	(NA)	(NA)
34462 —	Stairs, railings, fences, and gates (other than wire)	(NA)	(X)	380.2	(NA)	(NA)	(NA)
	Stairs, staircases, and fire escapes:						
34462 10	Iron and steel, 1,000 s tons	(NA)	(S)	190.5	315	(S)	243.4
34462 12	Aluminum, do	(NA)	(S)	28.5	61	(S)	51.5

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3446- --	**ARCHITECTURAL METAL WORK**—Con.						
34462 —	Stairs, railings, fences, and gates (other than wire)—Con.						
	Fences and gates, other than wire:						
34462 20	Iron and steel ---- 1,000 s tons	(NA)	(S)	70.3	58	(S)	36.7
34462 22	Aluminum ---- do	(NA)	(S)	12.1	(NA)	(NA)	(NA)
34462 26	Railings and window guards (iron, steel, and aluminum) ---- do	(NA)	(S)	74.8	78	(S)	41.5
34462 00	Stairs, railings, fences, and gates (other than wire), n.s.k. ----	(NA)	(X)	4.1	(NA)	(NA)	(NA)
34463 —	Open flooring, grating, and studs ----	(NA)	(X)	285.6	(NA)	(NA)	(NA)
	Open flooring and grating for building construction:						
34463 10	Iron and steel ---- 1,000 s tons	(NA)	(S)	106.7	67	(S)	140.6
34463 12	Aluminum ---- do	(NA)	(S)	29.9	17	(S)	43.1
34463 20	Nonload bearing studs (iron, steel, and aluminum) ---- do	(NA)	162.3	106.1	(NA)	(NA)	(NA)
34463 22	Load bearing studs (iron, steel, and aluminum) ---- do	(NA)	(S)	42.4	16	**187.8	125.8
34463 00	Open flooring, grating, and studs, n.s.k. ----	(NA)	(X)	.5	(NA)	(NA)	(NA)
34464 —	Scaffolding; shoring and forming for concrete work ----	(NA)	(X)	214.3	(NA)	(NA)	(NA)
34464 10	Suspended scaffolding, including midpoint, two point, multilevel, suspended, boatswain chairs, etc. (iron, steel, and aluminum) ---- 1,000 s tons	(NA)	(S)	23.1	(NA)	(NA)	(NA)
34464 13	Access scaffolding, including tube and coupler system, prefabricated mobil scaffolds, etc. (iron, steel, and aluminum) ---- do	(NA)	(S)	35.8	(NA)	(NA)	(NA)
34464 16	Shoring, including flying forms, postshores, ellis clamps, reshores, etc. (iron, steel, and aluminum) ---- do	(NA)	(S)	30.3	(NA)	(NA)	(NA)
34464 18	Forming, including modular, prefabricated, custom design, etc. (iron, steel, aluminum, and all other material-metal combinations) ---- do	(NA)	(S)	116.8	(NA)	(NA)	(NA)
34464 00	Scaffolding; shoring and forming for concrete work, n.s.k. ----	(NA)	(X)	8.4	(NA)	(NA)	(NA)
34465 —	Other architectural and ornamental work ----	(NA)	(X)	[3]565.2	(NA)	(NA)	(NA)
34465 10	Iron and steel ---- 1,000 s tons	(NA)	(X)	[3]565.2	96	87.2	140.8
34465 12	Aluminum ---- do				47	(S)	62.1
34465 30	Architectural and ornamental metal work other than aluminum or steel ---- do				38	(S)	28.7
34465 00	Other architectureal and ornamental work, n.s.k. ----				(NA)	(NA)	(NA)
34460 —	Architectural metal work, n.s.k. ----	(NA)	(X)	463.9	(N)	(X)	218.1
34460 00	Architectural metal work, n.s.k., typically for establishments with 5 employees or more (see note) ----	(NA)	(X)	368.5	(NA)	(X)	128.5
34460 02	Architectural metal work, n.s.k., typically for establishments with less than 5 employees (see note) ----	(NA)	(X)	95.7	(NA)	(X)	89.6
3448- —	**PREFABRICATED METAL BUILDINGS**						
	Total ----	**(NA)**	**(X)**	3 060.8	**(NA)**	**(X)**	**2 215.1**
34481 —	Prefabricated metal building systems, excluding farm service buildings, residential buildings, and parts for prefabricated buildings ----	(NA)	(X)	1 760.4	(NA)	(X)	1 385.6
34481 15	Industrial and commercial ---- 1,000 s tons	(NA)	(S)	1 304.5	149	*116.5	1 206.8
34481 17	Institutional, medical, and religious ---- do	(NA)	(S)	114.5	35	(S)	102.7
34481 18	Public and educational ---- do	(NA)	(S)	76.7	36	*4.0	73.1
34481 00	Prefabricated metal building systems, excluding farm service buildings, residential buildings, and parts for prefabricated buildings, n.s.k. ----	(NA)	(X)	264.7	(NA)	(X)	2.9
34482 —	Other prefabricated and portable metal buildings and parts ----	(NA)	(X)	658.7	(NA)	(X)	709.8
34482 14	Grain storage buildings, including farm and commercial types, steel and aluminum ---- 1,000 s tons	(NA)	(S)	69.0	31	**38.1	218.6
34482 15	Other farm service buildings (livestock shelters, machinery storage, etc.), excluding wood frame buildings; steel and aluminum ---- do	(NA)	(S)	45.2	26	(S)	69.1
34482 11	Greenhouses, steel and aluminum ---- do	(NA)	(S)	73.8	(NA)	(NA)	(NA)
	Dwellings, including vacation homes and camps:						
34482 13	Steel ---- 1,000 s tons	(NA)	(S)	27.0	10	**16.8	16.0
34482 23	Aluminum ---- do				7	6.0	12.7
	Small utility buildings, including toolsheds, cabanas, storage houses, etc.:						
34482 16	Steel ---- 1,000 s tons	(NA)	(S)	82.9	27	*393.6	117.1
34482 26	Aluminum ---- do	(NA)	(S)	29.0	28	**86.8	57.6
	Other, including garages, etc.:						
34482 17	Steel ---- 1,000 s tons	(NA)	(S)	40.4	21	(S)	54.5
34482 27	Aluminum ---- do	(NA)	(S)	77.8	18	(S)	42.7
34482 54	Panels, parts, or sections for prefabricated buildings, not sold as a complete unit, including sandwich and single face panels, steel and aluminum ---- do	(NA)	(S)	116.5	47	(S)	117.3
34482 00	Other prefabricated and portable metal buildings and parts, n.s.k. ----	(NA)	(X)	97.1	(NA)	(X)	4.1
34480 —	Prefabricated metal buildings, n.s.k. ----	(NA)	(X)	641.8	(NA)	(X)	119.8
34480 00	Prefabricated metal buildings, n.s.k., typically for establishments with 10 employees or more (see note) ----	(NA)	(X)	552.8	(NA)	(X)	43.2
34480 02	Prefabricated metal buildings, n.s.k., typically for establishments with less than 10 employees (see note) ----	(NA)	(X)	89.0	(NA)	(X)	76.6

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and velue of products of this industry produced by (1) establishments clessified in this industry (primary) end (2) establishments clessified in other industries (secondary). Transfers of products of this industry from one establishment of e compeny to enother establishment of the seme company (interplant transfers) ere elso included. For further explenetion, see Velue of Shipments in appendix. For meaning of abbrevietions end symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Velue (million dollars)		Quantity[2]	Velue (million dollars)
3449- —	**MISCELLANEOUS METAL WORK**						
	Total	**(NA)**	**(X)**	**3 120.9**	**(NA)**	**(X)**	**2 489.9**
34494 —	Febncated bar joists and concrete reinforcing bars	(NA)	(X)	1 093.6	(NA)	(X)	1 231.3
	Fabricated bar joists:						
34494 47	Long span, 1,000 s tons	(NA)	251.4	133.7	28	*271.9	139.4
34494 43	Short span (open web), do.	(NA)	**455.1	235.6	42	332.5	164.1
34494 52	Fabricated concrete reinforcing bars, do.	(NA)	*1 402.7	520.2	111	2 177.4	914.4
34494 00	Fabricated bar joists end concrete reinforcing bars, n.s.k.	(NA)	(X)	204.2	(NA)	(X)	13.4
34496 —	Metal plaster bases	(NA)	(X)	[3]81.7	(NA)	(X)	167.5
34496 11	Expanded metal lath, mil sq yd				9	83.6	87.8
34496 32	Metal plaster base eccessories, including corner beads, screeds, grounds, etc.	(NA)	(X)	[3]81.7	24	(X)	79.7
34496 00	Metal plaster bases, n.s.k.				(NA)	(X)	-
34497 —	Curtain wall	(NA)	(X)	271.7	(NA)	(X)	395.0
34497 73	Steel, including stainless, mil sq ft	(NA)	(S)	61.2	15	(S)	65.6
34497 75	Aluminum, do.	(NA)	(S)	198.0	32	(S)	259.2
34497 79	All other, including combination of metals, do.				13	(S)	68.0
34497 00	Curtain wall, n.s.k.	(NA)	(X)	12.6	(NA)	(X)	2.0
34498 —	Custom roll form products	(NA)	(X)	1 187.2	(NA)	(X)	599.2
34498 11	Carbon steel, mil lin ft	(NA)	(S)	766.1	139	(S)	353.1
34498 13	Stainless steel, do.	(NA)	(S)	90.6	49	(S)	43.5
34498 15	Aluminum, do.	(NA)	(S)	173.9	43	**8 657.8	147.3
34498 17	Other metals, do.	(NA)	(X)	127.9	25	(S)	55.3
34498 00	Custom roll form products, n.s.k.	(NA)	(X)	28.7	(NA)	(X)	-
34490 —	Miscellaneous metal work, n.s.k.	(NA)	(X)	486.6	(NA)	(X)	96.8
34490 00	Miscellaneous metal work, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	361.6	(NA)	(X)	58.5
34490 02	Miscellaneous metal work, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	123.2	(NA)	(X)	38.3

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

[1]Data reported by all producers, not just those with shipments of $100,000 or more.
[2]For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).
[3]Detailed 7-digit product data were not available in time for publication in this report. These data will be published in the final report which supercedes this report.

Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3441, FABRICATED STRUCTURAL METAL				
	Materials, parts, containers, and supplies	**(X)**	**[3]3 818.2**	**(X)**	**3 890.1**
	Mill shapes and forms, except castings:				
	Carbon steel:				
331009	Concrete reinforcing bars, 1,000 s tons	(3)	(3)	205.3	64.3
331010	Bars and bar shapes, except concrete reinforcing bars, do.	(3)	(3)	*260.7	108.2
331012	Sheet and strip, do.	(3)	(3)	*557.0	252.0
331013	Plates, do.	(3)	(3)	*920.7	488.9
331015	Structural shapes, do.	(3)	(3)	**2 603.2	1 308.6
331017	Wire and wire products, do.	(3)	(3)	(S)	13.1
331082	All other, do.	(3)	(3)	69.9	60.5
	Alloy steel, except stainless:				
331021	Bars and bar shapes, 1,000 s tons	(3)	(3)	(S)	18.0
331029	All other, do.	(3)	(3)	**47.9	32.7
	Stainless steel:				
331033	Sheet and strip, 1,000 s tons	(3)	(3)	(S)	17.7
331050	All other, do.	(3)	(3)	*3.4	7.8
	Copper and copper-base alloy:				
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes, mil lb	(3)	(3)	**1.2	2.3
335143	Plate, sheet, and strip, including military cups and discs, do.	(3)	(3)	**5.8	2.3
335152	Pipe and tube, do.	(3)	(3)	(S)	.7

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 Quantity[1]	1987 Delivered cost (million dollars)	1982 Quantity[1]	1982 Delivered cost (million dollars)
	INDUSTRY 3441, FABRICATED STRUCTURAL METAL—Con.				
	Mill shapes and forms, except castings—Con.				
	Aluminum and aluminum-base alloy:				
335301	Sheets, plate, and foil ---- mil lb	(3)	(3)	(S)	13.0
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. ---- do	(3)	(3)	*30.3	17.2
335008	All other wire, rolled rod and bar, powder, welded tubing, etc. ---- do	(3)	(3)	(S)	1.3
	Primary metals:				
333401	Aluminum and aluminum-base alloy refinery shapes (ingot, slugs, billet, etc.) ---- 1,000 s tons	(3)	(3)	(S)	5.3
333348	Zinc and zinc-base alloy refinery shapes ---- do	(3)	(3)	(NA)	(NA)
	Scrap, excluding home scrap:				
190023	Iron and steel ---- 1,000 s tons	(3)	(3)	3.9	2.7
190020	Aluminum and aluminum-base alloy ---- do	(3)	(3)	(Z)	1.4
	Castings (rough and semifinished):				
332011	Iron (gray and malleable) ---- 1,000 s tons	(3)	(3)	(S)	1.7
332045	Steel ---- do	(X)	(3)	(S)	9.6
336005	Aluminum and aluminum-base alloy ---- mil lb	(3)	(3)	.3	.7
336006	Copper and copper-base alloy ---- do	(3)	(3)	(NA)	(NA)
336008	Other nonferrous ---- do	(3)	(3)	(NA)	(NA)
265001	Paperboard boxes, containers, and corrugated paperboard ----	(X)	(3)	(X)	1.1
285101	Paints, varnishes, lacquers, japans, and enamels ----	(X)	(3)	(X)	22.8
320591	Refractories, clay or nonclay ---- 1,000 s tons	(3)	(3)	(NA)	(NA)
349402	Fabricated metal pipe, valves, and pipe fittings ----	(X)	(3)	(X)	9.2
354800	Welding electrodes ----	(X)	(3)	(NA)	(NA)
344309	Parts specially designed for steel power boilers ----	(X)	(3)	(X)	1.6
970099	All other materials and components, parts, containers, and supplies ----	(X)	(3)	(X)	537.1
971000	Materials, parts, containers, and supplies, n.s.k.[2] ----	(X)	(3)	(X)	885.2
	INDUSTRY 3442, METAL DOORS, SASH, AND TRIM				
	Materials, parts, containers, and supplies ----	(X)	[3] 3 205.8	(X)	2 287.6
	Mill shapes and forms, except castings:				
	Carbon steel:				
331010	Bars and bar shapes, except concrete reinforcing bars ---- 1,000 s tons			23.7	15.0
331012	Sheet and strip ---- do			409.8	187.3
331013	Plates ---- do			9.0	4.3
331015	Structural shapes ---- do			(S)	21.2
331017	Wire and wire products ---- do			**4.3	2.9
331019	All other carbon steel mill shapes and forms ---- do			1.0	5.3
331020	Alloy steel, except stainless ---- do			(S)	13.3
331031	Stainless steel ---- do			(S)	7.9
335105	Copper and copper-base alloy ---- mil lb			(S)	1.2
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil ---- mil lb			(S)	238.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. ---- do			*721.2	568.7
335008	All other wire, rolled rod and bar, powder, welded tubing, etc. ---- do			(S)	23.4
333401	Aluminum and aluminum-base alloy refinery shapes (ingots, slugs, billets, etc.) ---- 1,000 s tons			(S)	157.1
190020	Aluminum and aluminum-base alloy scrap (excluding home scrap) ---- do	(X)	[3] 3 205.8	(S)	5.6
	Castings (rough and semifinished):				
332011	Iron (gray and malleable) ---- 1,000 s tons			*1.3	1.1
332045	Steel ---- do			(S)	.8
336005	Aluminum and aluminum-base alloy ---- mil lb			(S)	6.2
336006	Copper and copper-base alloy ---- do			(D)	[4]
336008	Other, nonferrous ---- do			(S)	.5
342940	Builders hardware ----			(X)	84.6
345001	Bolts, nuts, screws, rivets, and screw machine products ----			(X)	16.2
329601	Mineral wool insulation (fibrous glass, rock wool, etc.) ----			(NA)	(NA)
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes ----			(X)	28.6
321101	Flat glass (plate, float, and sheet) ---- mil sq ft			619.8	226.7
970099	All other materials and components, parts, containers, and supplies ----			(X)	[4]374.2
971000	Materials, parts, containers, and supplies, n.s.k.[2] ----			(X)	297.3
	INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)				
	Materials, parts, containers, and supplies ----	(X)	[3] 2 780.3	(X)	3 486.8
	Mill shapes and forms, except castings:				
	Carbon steel:				
331009	Concrete reinforcing bars ---- 1,000 s tons	(3)	(3)	4.4	1.4
331010	Bars and bar shapes, except concrete reinforcing bars ---- do	(3)	(3)	(S)	47.6
331012	Sheet and strip ---- do	(3)	(3)	**536.9	216.8
331013	Plates ---- do	(3)	(3)	(S)	826.4
331015	Structural shapes ---- do	(3)	(3)	(S)	114.5
331017	Wire and wire products ---- do	(3)	(3)	(S)	5.4
331082	All other ---- do	(3)	(3)	(S)	104.5
	Alloy steel, except stainless:				
331021	Bar and bar shapes ---- 1,000 s tons	(3)	(3)	*37.4	22.5
331029	All other ---- do	(3)	(3)	(S)	89.8
	Stainless steel:				
331033	Sheet and strip ---- 1,000 s tons	(3)	(3)	(S)	83.4
331050	All other ---- do	(3)	(3)	(S)	139.7

See footnotes at end of table.

Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3443, FABRICATED PLATE WORK (BOILER SHOPS)—Con.				
	Mill shapes and forms, except castings—Con.				
	Copper and copper-base alloy:				
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes, mil lb	(3)	(3)	(S)	2.9
335143	Plate, sheet, and strip, including military cups and discs, do	(3)	(3)	(S)	14.3
335152	Pipe and tube, do	(3)	(3)	(S)	37.8
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil, mil lb	(3)	(3)	**46.6	36.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc., do	(3)	(3)	(S)	11.0
335008	All other wire, rolled rod and bar, powder, welded tubing, etc., do	(3)	(3)	**4.1	4.7
	Primary metals:				
333401	Aluminum and aluminum-base alloy refinery shapes (ingot, slugs, billet, etc.), 1,000 s tons	(3)	(3)	(D)	(D)
333348	Zinc and zinc-base alloy refinery shapes, do	(3)	(3)	(NA)	(NA)
	Scrap, excluding home scrap:				
190023	Iron and steel, 1,000 s tons	(3)	(3)	(S)	4.7
190020	Aluminum and aluminum-base alloy, do	(3)	(3)	(D)	(D)
	Castings (rough and semifinished):				
332011	Iron (gray and malleable), 1,000 s tons	(3)	(3)	(D)	(D)
332045	Steel, do	(X)	(3)	29.5	29.4
336005	Aluminum and aluminum-base alloy, mil lb	(3)	(3)	(S)	8.5
336006	Copper and copper-base alloy, do	(3)	(3)	(S)	2.5
336008	Other nonferrous, do	(3)	(3)	*3.3	2.9
265001	Paperboard boxes, containers, and corrugated paperboard	(X)	(3)	(X)	5.4
285101	Paints, varnishes, lacquers, japans, enamels, and allied products	(X)	(3)	(X)	17.1
320591	Refractories, clay or nonclay, 1,000 s tons	(3)	(3)	(S)	5.3
349402	Fabricated metal pipe, valves, and pipe fittings	(X)	(3)	(X)	122.1
354800	Welding electrodes	(X)	(3)	(X)	30.9
344309	Parts specially designed for steel power boilers	(X)	(3)	(X)	43.9
970099	All other materials and components, parts, containers, and supplies	(X)	(3)	(X)	640.8
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	(3)	(X)	748.3
	INDUSTRY 3444, SHEET METAL WORK				
	Materials, parts, containers, and supplies	**(X)**	**4 190.6**	**(X)**	**3 328.4**
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331009	Concrete reinforcing bars, 1,000 s tons	(S)	1.5	(S)	1.3
331010	Bars and bar shapes, except concrete reinforcing bars, do	(S)	71.2	**55.5	21.9
331012	Sheet and strip, do	(S)	894.3	*1 537.8	806.7
331013	Plates, do	(S)	23.1	(S)	69.5
331015	Structural shapes, do	(S)	40.3	(S)	117.5
331017	Wire and wire products, do	(S)	5.7	**14.6	6.3
331082	All other, do	(S)	30.4	122.1	24.7
	Alloy steel, except stainless:				
331021	Bars and strip, 1,000 s tons	(S)	5.5	**7.7	4.1
331029	All other, do	(S)	184.5	*163.2	106.6
	Stainless steel:				
331033	Sheet and strip, 1,000 s tons	(S)	110.7	(S)	100.6
331050	All other, do	(S)	14.0	(S)	10.9
335105	Copper and copper-base alloy, mil lb	(S)	14.4	(S)	13.6
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil, mil lb	(S)	565.0	**536.7	470.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc., do	(S)	56.9	**39.8	44.2
335008	All other wire, rolled rod and bar, powder, welded tubing, etc., do	(S)	31.1	11.2	10.3
	Primary metals:				
333401	Aluminum and aluminum-base alloy refinery shapes (ingots, slugs, billets, etc.), 1,000 s tons	(S)	19.7	**11.0	14.8
333348	Zinc and zinc-base alloy refinery shapes, do	4.6	3.7	*5.9	3.4
	Scrap, excluding home scrap:				
190023	Iron and steel, 1,000 s tons	**11.1	8.7	.4	.9
190020	Aluminum and aluminum-base alloy, do	(S)	2.4	(D)	(4)
	Castings (rough and semifinished):				
332011	Iron (gray and malleable), 1,000 s tons	(S)	8.2	5.9	4.4
332045	Steel, do	(X)	5.0	(S)	6.2
336005	Aluminum and aluminum-base alloy, mil lb	**6.1	12.6	**2.0	5.0
336006	Copper and copper-base alloy, do	(S)	(3)	(Z)	(Z)
336008	Other nonferrous, do	(S)	.1	.5	.4
345001	Bolts, nuts, screws, rivets, and screw machine products	(X)	45.0	(NA)	(NA)
329601	Mineral wool insulation (fibrous glass, rock wool, etc.)	(X)	13.1	(NA)	(NA)
321101	Flat glass (plate, float, and sheet), mil sq ft	(X)	20.4	**10.8	6.2
265001	Paperboard boxes, containers, and corrugated paperboard	(X)	40.9	(X)	25.3
243056	Plywood	(X)	1.8	(NA)	(NA)
285101	Paints, varnishes, lacquers, shellacs, japans, enamels, and allied products, 1,000 gal	(S)	82.9	(X)	40.2
349402	Fabricated metal pipe, valves, and pipe fittings	(X)	14.3	(X)	4.7
970099	All other materials and components, parts, containers, and supplies	(X)	*428.8	(X)	*374.0
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	1 380.5	(X)	1 034.1

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 Quantity[1]	1987 Delivered cost (million dollars)	1982 Quantity[1]	1982 Delivered cost (million dollars)
	INDUSTRY 3446, ARCHITECTURAL METAL WORK				
	Materials, parts, containers, and supplies	(X)	924.8	(X)	594.6
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331009	Concrete reinforcing bars, 1,000 s tons	**21.0	6.1	*.5	.2
331010	Bars and bar shapes, except reinforcing bars, do.	**67.1	35.1	**53.3	23.4
331012	Sheet and strip, do.	*294.3	161.2	*302.5	125.0
331013	Plates, do.	(S)	17.9	(S)	9.5
331015	Structural shapes, do.	(S)	58.4	**85.2	42.7
331017	Wire and wire products, do.	(S)	12.8	**11.4	4.2
331082	All other, do.	(S)	26.0	65.0	39.0
	Alloy steel, except stainless:				
331021	Bars and bar shapes, 1,000 s tons	(S)	(D)	(S)	1.7
331029	All other, do.	(S)	5.2	**12.3	6.5
	Stainless steel:				
331033	Sheet and strip, 1,000 s tons	(S)	9.8	(S)	6.0
331050	All other, do.	(S)	5.0	(S)	5.6
335105	Copper and copper-base alloy, mil lb	(S)	3.6	(S)	.9
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil, mil lb	(S)	(D)	(S)	14.0
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc., do.	(S)	63.0	*50.5	54.6
335008	All other wire, rolled rod and bar, powder, welded tubing, etc., do.	(S)	4.6	**3.6	3.1
	Primary metals:				
333401	Aluminum and aluminum-base alloy refinery shapes (ingots, slugs, billets, etc.), 1,000 s tons	(S)	6.5	(S)	16.3
333348	Zinc and zinc-base alloy refinery shapes, do.	(S)	(D)	(D)	(D)
190023	Iron and steel scrap (excluding home scrap), do.	(S)	1.7	(S)	.2
345001	Bolts, nuts, screws, rivets, and screw machine products	(X)	10.6	(NA)	(NA)
329601	Mineral wool insulation (fibrous glass, rock wool, etc.)	(X)	3.0	(NA)	(NA)
321101	Flat glass (plate, float, and sheet), mil sq ft	(X)	1.8	(S)	.4
285101	Paint, varnishes, lacquers, shellacs, japans, enamels, and allied products	(S)	12.4	(X)	6.8
970099	All other materials and components, parts, containers, and supplies	(X)	81.5	(X)	76.0
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	353.8	(X)	150.0
	INDUSTRY 3448, PREFABRICATED METAL BUILDINGS				
	Materials, parts, containers and supplies	(X)	[3]1 731.3	(X)	1 251.0
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331009	Concrete reinforcing bars, 1,000 s tons			[5]	[5]
331010	Bars and bar shapes, except reinforcing bars, do.			*112.5	39.8
331012	Sheet and strip, do.			*857.9	480.8
331013	Plates, do.			229.3	104.9
331015	Structural shapes, do.			313.2	139.9
331017	Wire and wire products, do.			**12.8	5.2
331082	All other, do.			[5]28.7	[5]18.9
	Alloy steel, except stainless:				
331021	Bars and bar shapes, 1,000 s tons			(S)	.7
331029	All other, do.			*8.1	5.3
	Stainless steel:				
331033	Sheet and strip, 1,000 s tons			(S)	5.5
331050	All other, do.			(S)	3.1
335105	Copper and copper-base alloy, mil lb			(S)	3.7
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil, mil lb			(S)	52.4
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc., do.	(X)	[3]1 731.3	33.8	32.6
335008	All other wire, rolled rod and bar, powder, welded tubing, etc., do.			(D)	[4]
	Primary metals:				
333401	Aluminum and aluminum-base alloy refinery shapes (ingot, slugs, billet, etc.)			(NA)	(NA)
333348	Zinc and zinc-base alloy refinery shapes, 1,000 s tons			(NA)	(NA)
190023	Iron and steel scrap (excluding home scrap), do.			(S)	1.4
345001	Bolts, nuts, screws, rivets, and screw machine products			(NA)	(NA)
329601	Mineral wool insulation (fibrous glass, rock wool, etc.)			(NA)	(NA)
321101	Flat glass (plate, float, and sheet), mil sq ft			(NA)	(NA)
285101	Paint, varnishes, lacquers, shellacs, japans, enamels, and allied products			(X)	12.4
970099	All other materials and components, parts, containers, and supplies			(X)	[4]212.9
971000	Materials, parts, containers, and supplies, n.s.k.[2]			(X)	125.4
	INDUSTRY 3449, MISCELLANEOUS METAL WORK				
	Materials, parts, containers, and supplies	(X)	1 771.1	(X)	1 431.3
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331009	Concrete reinforcing bars, 1,000 s tons	*830.4	245.6	1 357.1	397.1
331010	Bars and bar shapes, except reinforcing bars, do.	**734.8	219.2	381.3	110.9
331012	Sheet and strip, do.	*727.0	368.1	**398.1	196.6
331013	Plates, do.	(S)	40.9	11.8	5.3
331015	Structural shapes, do.	*110.9	31.6	*177.7	54.8
331017	Wire and wire products, do.	(S)	14.2	(S)	31.9
331082	All other, do.	(S)	11.2	(S)	6.4
	Alloy steel, except stainless:				
331021	Bars and bar shapes, 1,000 s tons	(S)	(D)	(S)	6.9
331029	All other, do.	(S)	(D)	49.4	28.1

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3449, MISCELLANEOUS METAL WORK—Con.				
	Mill shapes and forms, except castings and forgings—Con.				
	Stainless steel:				
331033	Sheet and strip ---- 1,000 s tons	(S)	15.3	(S)	22.1
331050	All other ---- do	(S)	2.6	(S)	3.7
335105	Copper and copper-base alloy ---- mil lb	(S)	.4	(S)	4.6
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil ---- mil lb	(S)	105.5	73.4	79.4
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. ---- do	*33.4	32.4	28.1	32.9
335008	All other wire, rolled rod and bar, powder, welded tubing, etc. ---- do	(S)	5.4	6.1	6.5
	Primary metals:				
333401	Aluminum and aluminum-base alloy refinery shapes (ingots, slugs, billet, etc.) ---- 1,000 s tons	(S)	13.8	25.9	26.2
333348	Zinc and zinc-base alloy refinery shapes ---- do	(S)	30.7	**1.2	1.0
190023	Iron and steel scrap (excluding home scrap) ---- do	(S)	4.5	451.5	32.0
345001	Bolts, nuts, screws, rivets, and screw machine products ----	(X)	1.9	(NA)	(NA)
329601	Mineral wool insulation (fibrous glass, rock wool, etc.) ----	(X)	(D)	(NA)	(NA)
321101	Flat glass (plate, float, and sheet) ---- mil sq ft	(X)	8.8	16.1	5.7
285101	Paint, varnishes, lacquers, shellacs, japans, enamels, and allied products ----	(X)	11.5	(X)	9.7
970099	All other materials and components, parts, containers, and supplies ----	(X)	65.8	(X)	[6]156.9
971000	Materials, parts, containers, and supplies, n.s.k.[2] ----	(X)	439.6	(X)	212.6

[1]For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]Detailed 6-digit material data were not available in time for publication in this report. These data will be published in the final report which supercedes this report.

[4]Data are combined with material code 970099 to avoid disclosing data for individual companies.

[5]For 1982, material code 331009 was combined with material code 331082 to avoid disclosing data for individual companies.

[6]For 1982, material code 970099 include data not shown separately for 1987.

APPENDIX
Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies–A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees–Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers–Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., powerplant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees–Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll–Includes the gross earnings for the "employees" defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours–Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials–Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)–In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. Establishments consuming less than a specified amount (usually $10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as "not specified by kind" (n.s.k.).

Value of shipments and other receipts–Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead and profit).

Shipments or production of individual products (table 2)–In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture–This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment–Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories–Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method. Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios–An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio–Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio–Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.

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